# WROC2000

Wireless Office Communication System

# User Manual

Applicable to Version 2.1.5.84.2

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# About This Manual

This manual describes how to use the WROC 2000 (hereinafter shortly referred to WROC2000).

# Chapter Ⅰ Overview

# Overview

## Front View

## Rear View

## Buttons and Ports

| | |
|---|---|
| **ON/OFF** | Powers on/off the WROC2000. |
| **RST** | Restores the WROC2000 to its factory default settings. |
| **WLAN** | Enables or disables the wireless network. |
| **WPS** | Connects a wireless terminal to the WROC2000 without the need to remember the Service Set Identifier (SSID) and password. |
| **PHONE** | Connects to an analog phone. |
| **LINE** | Connects to Public Switched Telephone Network (PSTN) lines. |
| **LAN1** | Connects to the Local Area Network (LAN). |
| **LAN2** | Connects to the LAN. |
| **USB1** | Connects to a USB storage device. |
| **USB2** | Connects to a USB storage device. |
| **DC** | Connects to a power adapter |

## Indicators

| Indicator | Status | Description |
|---|---|---|
| **STU** | Red (solid lit) | The WAN port does not obtain the IP address when one of the following cases occur:<br>• The WAN port does not connect to the network.<br>• The Dynamic Host Configuration Protocol (DHCP) server fails to obtain the IP address of the WAN port because the WAN IP conflicts with LAN IP.<br>• Point-to-Point Protocol Over Ethernet (PPPoE)/3G dial-up fails. |
| | Red (flashing) | The WROC2000 is rebooted or the Kupdate script is updated. |
| | Green (solid lit) | The WAN port obtains an IP address, and network calls are registered successfully. |
| | Red/Green (flashing intermittently) | The WAN port obtains an IP address, and network calls are registered unsuccessfully. |
| | Green (flashing) | The WAN port obtains an IP address, and network calls are not registered. |
| **PWR** | Red (flashing) | The WROC2000 is being started. |
| | Green (solid lit) | The WROC2000 is started. |
| | Unlit | The WROC is not powered on. |
| **USB** | Green (flashing) | Dial-up through a 3G network card is successful. |
| | Green (solid lit) | The storage device connected to the USB port is identified. |
| | Unlit | There is no storage device connected to the USB port, the dial-up is unsuccessful, or there is no |

| | | |
|---|---|---|
| | | dial-up through the 3G network card. |
| **WAN** | Green (solid lit) | There is no traffic over the WAN port. |
| | Green (flashing) | There is traffic over the WAN port. |
| | Unlit | The WAN port is not cabled. |
| **LAN1** | Green (solid lit) | There is no traffic over the LAN1 port. |
| | Green (flashing) | There is traffic over the LAN1 port. |
| | Unlit | The LAN1 port is not cabled. |
| **LAN2** | Green (solid lit) | There is no traffic over the LAN2 port. |
| | Green (flashing) | There is traffic over the LAN2 port. |
| | Unlit | The LAN2 port is not cabled. |
| **PHONE1** | Green (lit) | The call on the first line is picked up. |
| | Green (flashing) | The incoming call on the first line is ringing. |
| | Unlit | The call on the first line is hung up. |
| **PHONE2** | Green (lit) | The call on the first line is picked up. |
| | Green (flashing) | The incoming call on the first line is ringing. |
| | Unlit | The call on the first line is hung up. |
| **LINE** | Green (solid lit) | The incoming or outgoing call is made through the analog trunk. |
| | Unlit | The call through the analog trunk completes, and the analog trunk is idle. |

## Features

WROC2000 is applicable to small businesses, providing the following features:

- Connects to terminals (including computers, IP phones, smart phones, tablets, printers, fax machines, and video surveillance cameras) through public telephone network, Ethernet, 3G/4G, Wi-Fi, or other broadband IP network.
- Provides two USB ports for storing and sharing recorded information.

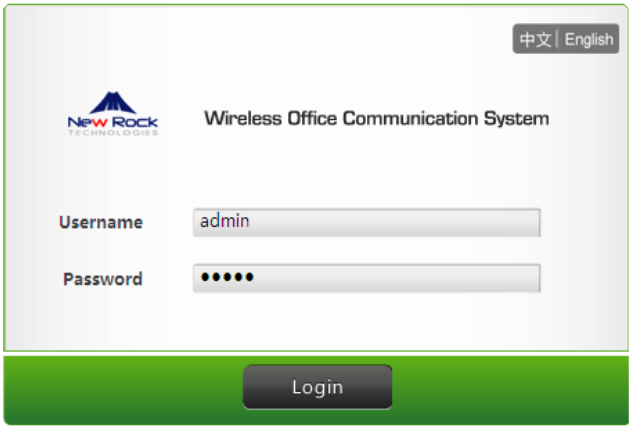
# Chapter II Getting Started

# Getting Started with WROC2000

## Logging in to the WROC2000

To log in to the WROC2000, perform the following steps:

1. Launch your web browser, enter the domain name (w.com) or the LAN address (such as 172.16.10.1) in the address bar, and press **Enter**. The **Login** dialog box appears.




2. Enter the username and password, and click **Login**.

## Home Page

After login, the home page with five main function modules appears:

| | |
|---|---|
| **Network** | Sets network parameters, such as network connection mode, and wireless network security. |
| **Voice** | Sets telephony parameters such as dialing rule, auto-attendant, analog or IP trunk, analog or IP extension, call forwarding and call transfer. |
| **Mgmt (Management)** | Provides settings such as password change, software upgrade, configuration management, and system reset. |
| **Status** | Allows you to check the transmission status of network, statistics on data sending and receiving, log management, call status, call log, and product information. |
| **Wizard** | Provides guidance on quick installation of the WROC2000. For details, see ***Quick Start Guide***. |

## Common Buttons in the GUI

| | |
|---|---|
| | Reboot. |
| | Logout. |
| | Go back to the home page. |
| Save | Save the configurations. |
| Back to the top | Back to the top of the page. |

# Chapter III Network

# Network Settings

## WAN

The Wide Area Network (WAN) access mode of the WROC2000 depends on the service provided by the Internet Service Provider (ISP).

### Setting the WAN

To set the WAN, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Network > WAN**, and select a network connection mode from the upper-left text box in **Setup**.

| Connection Mode | Description |
|---|---|
| **STATIC (Fixed IP)** | Requires you to set the parameters that are provided by the ISP, such as IP address (static), subnet mask, default gateway, and primary and secondary DNS server address. |
| **DHCP (Auto config)** | The WROC2000 automatically obtains the IP address, subnet mask, DNS server address, and other relevant information from the front-end network, and automatically connects to the network. |
| **PPPoE(ADSL)** | Requires you to set the username and the password which are provided by the ISP, and to select one of the following parameters for the WROC2000 which connects to the network over an ADSL connection (PPPoE) by simulating a dial-up connection:<br>• **Auto-Connection**: The WROC2000 automatically re-connects to the network 60 seconds after it is disconnected.<br>• **Request-Connection**: The WROC2000 automatically disconnects from the network 5 seconds after no connection request is received.<br>• **Manual-Connection**: The WROC2000 needs to connect to the network manually. |
| **L2TP/PPTP** | Requires you to set the L2TP/PPTP server IP address, user name, password, subnet mask, and default gateway for the WROC2000 to serve as the client of Virtual Private Network (VPN). |
| **3G/4G** | Requires you to connect a 3G/4G USB dongle to the USB port of the WROC2000 before a proper ISP is selected.<br>If the ISP is TOT (Telephone Organization of Thailand), True H (Thailand), Teletalk (Bangladesh) or Telefonica (Movistar, Spain), configure as shown in section *Appendix: Configuration of 3G*.<br>Otherwise, you need to define the parameters by yourself. |

**Note:** After selecting a connection mode, the status of the WAN connection can be checked by navigating to **Status > WAN**.

3. (Optional) Select **Enable** in **3G Failover**.

**Notes**:

- The WROC2000 supports 3G failover only when the network connection mode is **STATIC (Fixed IP)** or **DHCP (Auto config)**.
- If 3G failover is enabled, the WROC2000 will automatically activate the 3G connection and switch traffic to the 3G connection when: **a.** The uplink of Ethernet WAN port is working improperly. **b.** There is no response of ping from the gateway and the DNS server.
- After the connection of the wired network resumes, the WROC2000 will automatically switch back. The 3G link remains connected without charring traffic.
- After fallback from 3G connection to Ethernet connection, if calls cannot be made properly, restart the WROC2000.

4. (Optional) Select **Enable** in **MAC clone**, and enter the MAC address identified by the ISP. If it is the MAC address of your PC, click **Fill my MAC**.

**Notes**:

- **MAC clone** needs to be enabled when the ISP only grants registered MAC addresses to access the network.
- The MAC address identified by the ISP can be duplicated to the WAN port for network connection.

5. Click **Save**.

# LAN

The LAN IP address needs to be configured for the LAN users to access the WROC2000.

## Setting the LAN

To set the LAN, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Network > LAN**, and set the IP address and subnet mask for the LAN of the WROC2000 in LAN setup.

**Notes**:

- Usually, the default values are used.
- The valid LAN IP address ranges from 10.0.0.0 to 10.255.255.255, 172.16.0.0 to 172.31.255.255, 192.168.0.0 to 192.168.255.255, and 169.254.0.0 to 169.254.255.255.
- If the LAN IP address is changed, the WROC2000 can be logged in to only by using the new IP address or the domain name (w.com).

3. Click **Save**.

## DHCP Server

Based on the preset IP address range, the Dynamic Host Configuration Protocol (DHCP) server on the WROC2000 automatically assigns IP addresses to terminals to access the WROC2000 and implement DHCP services.

### Enabling the DHCP Server

To enable the DHCP server, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Network > DHCP server**.
3. Select **Enable** beside **Server** in **DHCP setup**. The corresponding values for the parameters are generated automatically.

**Notes**:

- The start IP and end IP addresses can be re-set as required, but the new IP addresses must be in the same subnet with the LAN IP address.
- By default, the value in **Primary DNS server** is the LAN IP address. Lease time validity is 86,400 seconds by default.
- Before the lease time expires, the DHCP server will not assign the IP address that is in used to other terminals.

4. Click **Save**.

## MAC Address Binding

If an IP address is bound to a MAC address, the IP address will be assigned only to the terminals with the bound MAC address. MAC address binding can effectively prevent illegitimate users from occupying network resources.

### Binding a MAC Address to an IP Address

To bind a MAC address to an IP address, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Network > DHCP server**, and enter the MAC address and the IP address to be bound in **MAC address binding**.

**Note:** The IP address must be in the same subnet with the LAN IP address.

3. Click **Save**.

**Note:** Up to 3 binding rules can be created.

## DHCP Clients

The information (including hostname, MAC address, acquired IP address, and expiration time of the IP address) about terminals to which the DHCP server has assigned IP addresses is displayed under

**Network > Network > DHCP clients**.

| | |
|---|---|
| **Hostname** | Client name. |
| **MAC address** | Client MAC address. |
| **IP address** | IP address assigned to the client host by the DHCP server. |
| **Expires in** | Remaining time before the IP address expires. Every IP address has an expiration time, and the client software will automatically renew it before the expiration time. |

# Wireless Network

## Basic Wireless Network Settings

Wireless terminals can access to the Internet by connecting to the wireless network of the WROC2000.

### Enabling/Disabling Wireless Services through the WLAN Button

The wireless network can be enabled or disabled by using the WLAN button on the front panel of the WROC2000.

- If the WLAN indicator on the WROC2000 is on, the wireless network is enabled.
- If the WLAN indicator on the WROC2000 is off, the wireless network is disabled.

### Configuring Basic Wireless Network Parameters

To configure the basic wireless network parameters for the WROC2000, perform the following steps:

1. Click **Network** on the home page.
2. In **Wireless network**, perform the following settings:
   a. Select **On** beside **WiFi**.
   b. Select a wireless network connection mode from **Network mode**.

| | |
|---|---|
| **802.11b+g** | The connection of both 802.11b and 802.11g terminals is supported, and the maximum connection rates are 11 Mbps and 54 Mbps respectively. |
| **802.11b** | Only the connection of the 802.11b terminal is supported, and the maximum connection rate is 11 Mbps. |
| **802.11g** | Only the connection of 802.11g terminal is supported, and the maximum connection rate is 54 Mbps. |
| **802.11n** | Only the connection of the 802.11n terminal is supported, and the maximum connection rate is 150 Mbps or 300 Mbps. |
| **802.11b+g+n** | The connection of the 802.11b, 802.11g, and 802.11n terminals is supported, and the maximum connection rates are 11Mbp, 54 Mbp, and 150 or 300 Mbp respectively. |

**Notes:**

- The WROC2000 supports the **802.11b/g/n** network modes. If the 802.11b and 802.11g terminals co-exist on the network, you need to select a mixed mode.
- It is recommended to use the default mode **802.11b+g+n**.

   c. Enter the wireless network name in SSID. The default wireless network name in **SSID** is **NewRock**.
   d. To broadcast the wireless network name (SSID) of the WROC2000 to wireless clients that have a null (blank) SSID, select **Enable** beside SSID broadcast.
   e. To ensure safe network access and prevent wireless clients under the same SSID from communicating with each other, select **Enable** beside AP isolation.

**Note:** AP isolation can be applicable to such public places as hotels and airports with hotspots.

f. To prevent a wireless client from accessing other wireless clients under different SSIDs, Ethernet clients, or the same WROC2000, select Enable beside MBSSID AP isolation.
g. Select a wireless channel from **Channel**.

**Note:** You must not change the wireless channel unless you notice interference problems with another nearby access point.

3. Click **Save**. The basic information about the wireless network clients of the WROC2000 can be checked under **Network > Wireless > Clients List**.

## Setting High Speed Mode

To set high speed mode that is only applicable to the 802.11n wireless connection mode, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Wireless > Basic > High speed mode**. You are recommended to use the default values of the parameters.

| | |
|---|---|
| **Operating mode** | • **Mixed mode**: Improves wireless network compatibility but affects the throughput.<br>• **Green mode**: Improves the throughput but affects the compatibility and system security. |
| **Channel bandwidth** | Doubles the transmission rate and improves the wireless network throughput by sending to and receiving from the 40-MHz channel or a 20-MHz channel.<br>• In 802.11n mode: Two 20-MHz channels are bundled into a 40-MHz channel.<br>• In real situations: The 40-MHz channel can be used as two 20-MHz channels (a primary channel and a secondary channel). |
| **Guard interval** | Prevents wireless signal transmission from being interfered and affected. |
| **Modulation and Coding Scheme (MCS)** | The wireless rate of 802.11n mode is configured through the index value of Modulation and Coding Scheme (MCS). Each MCS index value corresponds to a communication rate determined by a set of parameters. |
| **Reverse direction grant (RDG)** | Allows the WROC2000 to receive response packets while sending packets. |
| **Space time block coding (STBC)** | Allows the WROC2000 to transmit multiple copies of a data stream through antenna or other receiving means, to data transmission reliability. |
| **Aggregation MSDU (A-MSDU)** | Indicates a frame aggregation mode. In this mode, multiple MAC Service Data Units (MSDU)s are combined into one MSDU for transmission, to reduce the amount of additional MAC head information in each MSDU and to increase the MAC-layer transmission rate. |
| **Auto block ACK** | Increases the transmission rate by combining exchange sequences. |
| **Decline BA request** | Increases the transmission rate by rejecting automatic block response requests from other wireless devices. |
| **HT disallow TKIP** | On the wireless network of high throughput, the encryption mode is Advanced |

| | |
|---|---|
| | Encryption Standard (AES) or none, instead of Temporal Key Integrity Protocol (TKIP). |

## Wireless Network Security

The wireless network security and encryption is set up to prevent the WROC2000 from unauthorized access and monitoring.

### Setting Wireless Network Key

To set the wireless network key, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Wireless > Security**, and select the security mode (**WPA/WPA2-PSK** by default) according to the wireless network standard supported by the wireless terminal.

| Wireless Network Standard | WEP Protocol | WPA Protocol | WPA2 Protocol |
|---|---|---|---|
| **IEEE 802.11b** | Supported | Not supported by early wireless terminals | Not supported by early wireless terminals |
| **IEEE 802.11g** | Supported | Not supported by early wireless terminals | Not supported by early wireless terminals |
| **IEEE 802.11n** | Supported | Supported | Support |

- Select **None** from **Security mode** in Security.
- Select **WEPAUTO** from **Security mode**, select the default key and enter the passphrase in **Wire equivalent protection (WEP)**.

#### Notes

- If the length of the key is 64 bits key, the passphrase should be 10 hexadecimal characters or 5 ASCII characters.
- If the length of the key is 128 bits, the passphrase should be 26 hexadecimal characters or 13 ASCII characters.

#### WPA-PSK

Select **WPA-PSK** from **security mode**, and perform the following settings in **WPA-PSK**:

a. Select **TKIP** or **AES** from **Type**.
b. Set the passphrase.
c. Enter a value in **Key Renewal Interval**.

#### WPA2-PSK

Select **WPA2-PSK** from **security mode**, and perform the following settings in **WPA2-PSK**:

a. Select **TKIP**, **AES,** or **TKIP&AES** from **Type**.
b. Set the passphrase.
c. Enter a value in **Key Renewal Interval**.

#### WPA/WPA 2-PSK

Select **WPA/WPA2-PSK** from **security mode**, and perform the following settings in **WPA/WPA2-PSK**:

a. Select **TKIP**, **AES,** or **TKIP&AES** from **Type**.
b. Set the passphrase.
c. Enter a value in **Key Renewal Interval**.

3. Click **Save**.

**Note:** The default value in **Key Renewal Interval** is 3,600 seconds. Key renewal interval indicates the interval at which the broadcast and multicast are refreshed.

## Advanced Wireless Network Settings

The advanced wireless network settings are located under **Network > Wireless > Advanced**. It is recommended to use the default values.

| | |
|---|---|
| **BG protection mode** | Indicates a self-adjustment mechanism which helps 802.11b+g wireless clients to successfully connect to 802.11n wireless network under complex situations. **Auto** is selected by default. |
| **Beacon interval** | Indicates the interval (100 ms by default) of time between beacon transmissions. The smaller is the interval, the faster is the access speed of the wireless client; the larger is the interval, and the higher is the data transmission efficiency of the wireless network. |
| **Data beacon rate (DTIM)** | Indicates the interval (1 ms by default) of transmitting indication messages. |
| **Fragment threshold** | Indicates the threshold (2,346 bytes by default) for data fragmentation. When the data size exceeds the threshold, the data packet will be fragmented into several pieces. |
| **RTS threshold** | Activates the Request To Send mechanism if the data size exceeds the value you set. The data packets are sent with permission. If the access of long-distance client is interfered, you can set a smaller threshold value. The default value is 2,347 bytes. |
| **TX power** | Indicates the distance and range that wireless signals can cover. The default value is 100. |
| **Preamble type** | Includes the long transmit preamble that may provide a more reliable connection or slightly longer range, and the short transmit preamble that gives better performance. |
| **TX burst** | Indicates a mechanism in which the AP attempts to send multiple packets after receiving an ACK message from the client, and assures the AP a higher throughput without changing the network environment and increasing the transmission duration. |
| **Packet aggregate** | Reduces the occupied network bandwidth, and degrades network performance in case of poor network environment or serious interference. |
| **IEEE 802.11H support** | Only applied to A bandwidth. |

## Wi-Fi Multi-Media

| | |
|---|---|
| **Wi-Fi Multimedia** | Wi-Fi multimedia (WMM) is a wireless Quality of Service (QoS) protocol, ensuring the preferential transmission of voice and video data. To perform WMM, the wireless client is also required to support WMM. By default, WMM is enabled. |
| **APSD** | Automatic Power Save Delivery (APSD) saves power when no data is transmitted. Enabling this function may reduce the wireless network performance. By default, APSD is disabled. |

## WPS

Wi-Fi Protected Setup (WPS) is used to easily establish encrypted connections between wireless client and WROC2000 by entering the PIN and clicking **Start to connect**, or pressing the **WPS** button.

### Enabling WPS

To enable WPS, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Wireless > WPS**.
   a. In **WPS config.**, select **Enable** beside **WPS**, click **Generate** beside **Route_PIN** to generate a PIN of the WROC2000, and click **Save**. Next, enter the generated PIN on the WPS client to automatically connect to the WROC2000.
   b. Perform either of the following settings in **WPS progress**:
   - Select **PBC**, and click **Start to connect**.
   - Select **PIN**, enter the PIN of the WPS client in **PIN**, and click **Start to connect**.

**Notes:**

- The WPS information can be checked in **WPS**.
- **Reset OOB** is used to place the WPS client in idle state with the WPS indicator unlit, and allows non-WPS clients to access the WROC2000.
- It is recommended to re-configure the security mode for the wireless network of the WROC2000 after clicking **Reset OOB**.

## WDS

Wireless distribution system (WDS) enables the WROC2000 to extend its wireless network coverage by establishing connections with other routers through lazy, bridge or repeater mode.

### Setting WDS through the GUI

To set WDS through the GUI, perform the following steps:

1. Click **Network** on the home page.
2. Click **Wireless > WDS**.
3. Select the WDS mode.

| WDS Mode | Applicable to | Applicable to the | Able to Provide | Description |
|---|---|---|---|---|

| | the Master AP | Extended AP | the AP Function | |
|---|---|---|---|---|
| **Lazy** | Yes | Yes | Yes | The MAC address of the extended AP is not required. |
| **Bridge** | Yes | Yes | No | The MAC address of the extended AP is required. |
| **Repeater** | Yes | Yes | Yes | The MAC address of the extended AP is required. |

4. Set the encryption type and key. If the bridge or repeater mode is selected, the AP MAC address needs to be entered.

**Note:** If the bridge or repeater mode is selected, the AP MAC address needs to be entered.

5. Click **Save**.

## Example for Expanding Wireless Network Coverage through WDS in Lazy and Repeater Modes

### Performing Settings in the WROC2000

1. Log in to the WROC2000, and click **Network** on the home page.
2. Navigate to **Wireless > Basic > Wireless network**, select **802.11b+g+n** from **Network mode**, select **11** from **Channel**, and write down the SSID.
3. Navigate to **Wireless > Security**, and set the security mode and encryption key.

**Note:** If the **WPA/WPA2-PSK** default security mode is used, the encryption type should be AES and the key should be 12345678.

4. Navigate to **Wireless > WDS**, select **Lazy mode** from **WDS mode**, select **AES** from **Encryption type**, enter 12345678 in **Encryption key**, and click **Save**.

### Performing Settings in another WROC2000/Router

1. Set the SSID, operating mode, security mode, encryption type, key and channel of another WROC2000/router to be identical with those on the WROC2000. If the WDS mode is repeater mode, the settings of encryption type and key are the same with that of WROC2000.
2. Set the encryption type and key to be same as those of the WROC2000 if the WDS mode is repeater mode, and click **AP scanning** to add the MAC address of the WROC2000.
3. Disable DHCP services on another WROC2000/router, set the LAN port address of another WROC2000/ router in the same subnet with that of the WROC2000.
4. Reboot both the WROC2000 and another WROC2000/router.

**Notes:**

- The WROC2000 and another WROC2000/router should support the WDS feature.
- The LAN IP addresses of the WROC2000 and another WROC2000/router should be different IP addresses within the same IP network.
- The DHCP server of the WROC2000 should be enabled, while the DHCP server of another

WROC2000/router should be disabled.

- The SSID, operating mode, security mode, encryption type, key, and channel should be same in the WROC2000 and another WROC2000/router.

## MAC Filtering

MAC addresses can be filtered to prevent certain terminals from accessing the WLAN.

### Setting MAC Filtering

To set MAC address filtering, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Wireless > MAC address filter**.
3. In **Basic Settings**, select **Enable** beside **MAC filtering**, and select **Allow** or **Reject** beside **Access control policies**.

| | |
|---|---|
| **Access control policies** | • **Allow**: Allows the WROC2000 only at the MAC addresses (listed in the reserved MAC address table) to connect to the wireless network.<br>• **Reject**: Prevents the WROC2000 at the MAC addresses (listed in the reserved MAC address table) from connecting to the wireless network.<br>**Note:** Up to 20 MAC addresses can be added to the reserved MAC address table. |

4. Click **Save**.

# Firewall

## Access Control

This feature controls the access of users by accepting or rejecting the connection request submitted by the client according to the rule parameters. The connection request can be filtered based on one or several control rules.

### Setting Access Control

To set access control, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Firewall > Access control**, and perform either of the following settings
   In Basic settings, select Enable beside Access control, set the **Rules**, and click **Add**. The filtering based on the MAC address and source IP address can prevent a terminal from connecting to the Internet. The filtering based on the destination IP address can prevent the access to this IP address. The filtering based on ports can prevent the access to some services, such as WEB and File Transfer Protocol (FTP).
3. In **Basic settings**, select **Enable** beside **Access control**, select **only data from listed filtering table to send via the device** beside **Default policy**, and click **Save**. Next, in **Rules**, select **Accept** from **Action**, set the other parameters, and click **Add**.

**Notes:**

- The filtering based on the MAC address and source IP address can prevent a terminal from connecting to the Internet.
- The filtering based on the destination IP address can prevent the access to this IP address.
- The filtering based on ports can prevent the access to some services, such as WEB and File Transfer Protocol (FTP).
- Up to 32 control rules can be added to the control rule table.
- If you do not want to add a certain filtering rule to the control table, you can set it to be empty.

## Advanced Filtering

This feature facilitates you to access legitimate websites by filtering network packets (including web contents like Java and ActiveX applications, keywords, and URL).

### Setting Filtering

To set filtering, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Firewall > Advanced filtering**.

| Filtering mode | Description |
|---|---|
| **Content** | Prevents you from accessing to websites containing such content as Proxy, Java or AxtiveX. |

| | |
|---|---|
| **URL** | Prevents you from accessing to a certain website. For example, If you enter sohu.com in URL, neither the www.sohu.com website nor the second/third level domains (such as mail.sohu.com) of sohu.com can be accessed to. |
| **Keyword** | Prevents you from accessing to a certain type of websites. For example, if **sports** is set to be a keyword, any sports-involved websites (such as sports.sina.com and sports.sohu.com) cannot be accessed to. |

3. Click **Save** or **Add** as required.

## IP Table

WROC2000 only responds to the SIP requests from trusted IP addresses listed in the table.

1. Click **Network** on the home page.
2. Navigate to **Firewall > IP table > Basic**, then select **Enable**.
3. Click **Save**
4. Fill in the **IP address trusted**.
5. Click **Add**

**Note:** The server(s) in **Voice > Trunk > IP Trunk** will be added into trusted list automatically.

# QoS

## QoS

Quality of Service (QoS) ensures to provide different bandwidths and priorities for different traffic, and ensures efficient bandwidth utilization by reasonably allocating the bandwidth for data packets if the bandwidth resources are limited.

## Setting QoS

To set QoS, perform the following steps:

1. Click **Network** on the home page.
2. Click **QoS**, and perform the following settings in QoS setup:
   a. Select **Bi-direction**, **Upload from Internet**, or **Download from Internet** from **Quality of Service**.
   b. Set the values in Upload bandwidth and Download bandwidth according to the network condition.
   c. Set the QoS policy.

| | |
|---|---|
| **DRR** | Configures the minimum and maximum bandwidth for rules of each level, and QoS rules. |
| **SPQ** | Configures QoS rules rather than uploading and downloading rules, and processes services by priorities. |
| **SPQ+DRR** | Configures the minimum and maximum bandwidth for rules of the lowest level and the default, and configures QoS, uploading and downloading rules. |
| **DSCP** | The device will not apply any traffic shaping other than forwarding packets with the DSCP codes based on the QoS rule.<br>Differentiated Services Code Point (DSCP) is a field in an IP packet that enables the marking of priority. Up to 64 priorities can be defined by DSCP code. |

3. Set the minimum and maximum bandwidth of different levels (highest, high, default, and low) for the upload and download rules. The total minimum bandwidth of each level cannot exceed 100%.
4. Set the reserved bandwidth (10% by default is recommended to use).
5. Configure parameters for the upload or download rules.

| | |
|---|---|
| **Name** | Indicates the name of a rule. |
| **Priority** | Indicates the priority for a rule. |
| **Destination (Dest.) IP address** | Indicates the destination IP address over which QoS takes effect. |
| **Source IP address** | Indicates the local IP address. |
| **Package length** | Indicates the length of packets passing through the router. |
| **DSCP** | Distinguishes priorities by DSCP code. It is recommended to use the default value. |
| **Protocol** | Indicates the protocol type over which QoS takes effect. |
| **Remark DSCP as:** | Configure the DSCP code for re-marking. Select **Not change** will |

| |
|---|
| disable the re-marking of DSCP code. |

6. Click **Save**.

**Note:** By default, the WROC2000 gives priority to voice services, so QoS settings do not take effect over voice services.

# Application

## Virtual Server

The virtual server achieves port range forwarding between the WAN and LAN terminals of the WROC2000. The access to the WAN port range will be redirected to the specified terminals in LAN.

### Setting a Virtual Server

To set a virtual server, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Application > Virtual server**, and set the following parameters:

| | |
|---|---|
| **Host IP address** | Indicates the IP address of the host that serves as the virtual server of the LAN. |
| **Port range** | Indicates the start and end ports which the virtual server monitors. |
| **Protocol** | Indicates the network protocol used by the virtual server. For example, you need to select **UDP** for DNS server and **TCP** for Web server. If you are not sure which protocol is suitable, select **TCP&UDP**. |
| **Comment** | Indicates the No. of port forwarding rules. |

3. Click **Add**.

**Note:** If the service port 80 is included in the port range configured for the virtual server, click **Firewall > System security** to change the remote management port to any value except 80, such as 8888. Otherwise, a conflict will occur to disable the virtual server.

## Port Forwarding

Port forwarding enables Internet users to access certain applications (such as FTP server) on the specified LAN terminal of the WROC2000.

### Setting Port Forwarding

To set port forwarding, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Application > Port forwarding**, and set the following parameters:

| | |
|---|---|
| **Host IP address** | Indicates the IP address of the host where port mapping is enabled on the LAN. |
| **Public port** | Indicates the external network port corresponding to the LAN server port. |
| **Private port** | Indicates the server port of the LAN host. |
| **Protocol** | Indicates the protocol applied for port mapping. If you are not sure which protocol is suitable, select **TCP&UDP**. |
| **Comment** | Indicates the No. of port forwarding rules. |

3. Click **Add**.

**Note:** Up to 32 ports forwarding rules can be added to the port forwarding list.

## DMZ

Enabling De-Militarized Zone (DMZ) exposes a certain device in the LAN to the WAN for unrestricted two-way communications.

### Setting DMZ

To set DMZ, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Application > DMZ**, selects Enable beside **DMZ settings**, and enters the IP address of the DMZ host on the LAN.
3. To access the WROC2000 through a WAN address when the remote management feature (the remote management port is 80) is enabled, select **Except TCP port 80**.
4. Click **Save**.

**Note:** After DMZ is enabled, the firewall will fail to protect the WROC2000.

## UPnP

Universal Plug and Play (UPnP) helps devices to access the network and connect to other devices as needed.

Hosts with UPnP components on the LAN can automatically enable the corresponding ports on the WROC2000. Consequently, applications supporting UPnP on the external host can access internal host resources.

### Enabling UPnP

To enable UPnP, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Application > UPnP**, and select **Enable**.
3. Click **Save**.

## USB Storage

This feature enables you to access the storage device that connects to the USB storage of the WROC2000.

### Enabling USB Storage

To enable USB storage, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Application > USB storage**, and select **Network connection** (local access) or **HTTP** (local or remote access), and you can change the username and password for HTTP access.
3. In **Network folder**, enter the shared name in **Share name**, and select **Allow** or **Reject** beside

**Access**.

4. Click **Save**.

### How to View the Shared information

| | |
|---|---|
| **Network connection** | Double click **My Computer** and enter **\\usb\share** in the address bar. Next, enter the username and password (both are **admin** by default), and open the **sda** file to view the shared information. |
| **HTTP** | Open the browser and enter **http://w.com/usb** in the address bar. Next, enter the username and password (both are **user** by default), and open the **sda** file to view the shared information. |

**Notes:**

- After the first access to the USB storage, the password is remembered by your PC, and is not required for subsequent accesses.
- If the password is changed, the USB storage device cannot be accessed over the network until your PC is rebooted.
- If you access the USB storage device through the Internet, you should enter the WAN IP address of the WROC in the address bar of the browser, such as **http://220.245.148.97/usb**.
- You can read and write the USB storage device only if the storage device is accessed over the network.
- Multiple partitions on an external USB hard drive is supported while external hard drives in exFAT are not supported.

## USB Printer

A non-network printer can be connected to the USB port of the WROC2000 for sharing through the network.

### Checking USB Printer Availability

To check the availability of the USB printer, perform the following steps:

1. Click **Network** on the home page.
2. Click **Application > USB printer** to check the information about the installed printers in **USB printer list**.

**Note:** A USB printer is available only after the printer driver is installed in your computer which can get access to the WROC2000. The WROC2000 address needs to be entered during the printer driver installation.

# Advanced Settings

## Static Routing

Static routing is a way of route forwarding instead of the default route for a specified host or network.
Static routing should be enabled with caution when the surrounding network environment of the WROC2000 is complex or the topology of the surrounding network is unclear.

### Setting Static Routing

To set static routing, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Advanced > Static routing**.
3. Select the route type (Host/Net), set the corresponding parameters, and enter the routing rule No. in **Comment**.

| | |
|---|---|
| **Destination** | Indicates the destination IP address of data packets. |
| **Netmask** | Indicates the subnet mask of the destination IP address. |
| **Gateway** | Indicates the IP address of the next hop. The IP address must be in the same subnet as the IP address of the WAN or LAN port on the WROC2000. |
| **Interface** | Indicates the port from which data packets are sent. |

4. Click **Add**.

## System Time

### Synchronizing System Time

To synchronize system time, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Advanced > System time**.
3. Click Time synchronization to obtain the time from the connected time server.
4. (Optional) Set the period of synchronization, select a time zone, enter the IP address of the time server (on the LAN or internet) to which the time is obtained and synchronized with.

**Note:** The WROC2000 automatically obtains the time from the time server on the Internet or LAN after each boot. Features like recording and call detailed records are related to the system time.

## DDNS

If the IP address of the WROC2000 is not fixed, the IP phones on the Internet need to find and register to the WROC2000 based on a fixed Dynamic Domain Name System (DDNS).

### Setting DDNS

To set DDNS, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Advanced > DDNS**.
3. Select **Enable**, select a service provider, and enter the account, password and domain name obtained from the DDNS service provider.

**Note:** DDNS service providers that the WROC2000 supports include www.oray.com, Dyndns.org, freedns.afraid.org, www.zoneedit.com, www.no-ip.com, www.3322.org, www.dtdns.com, www.ddns.com.cn and www.changeip.com etc.

4. Set a value (unit: second by default) in **Renewal interval** as required.
5. Click **Login**.

# Chapter IV Voice

# Auto-Attendant

This feature allows callers to be transferred to an extension without going through a telephone operator or receptionist.

## Auto-Attendant and Receptionist

To enable the auto-attendant and receptionist features, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Basic > Auto-attendant**, and set the corresponding parameters.

| | |
|---|---|
| **Auto attendant** | The audio greeting is played to the caller according to the business hour or non-business hour defined here. You can select the three options listed below:<br>• **Business hours only**: The business hour greeting is always played.<br>• **Non-business hours only**: The non-business hour greeting is always played.<br>• **Customize**: The business hour or non-business hour message is played according to the time schedules defined here (you can set up to 3 time schedules). |
| **Greeting** | The audio greeting that is played to the caller. Click **Text to voice greeting** button to enter the editing page of greeting. |
| **First digit timeout** | An incoming call is automatically transferred to the receptionist if the caller does not dial an extension number within the scheduled time after the audio greeting stops to play. |
| **Operator** | • **Extension**: The extension number (216 by default) of the receptionist.<br>• **Press**: The abbreviated phone number (0 by default) of the receptionist.<br>• **Ring the phone**: When the number (5 by default) of rings on an extension reaches the scheduled value and the incoming call is not answered, a voice prompt is played to the caller. |

3. Click **Save**.

## Greeting

The greeting can be varied from business hours to non-business hours, and can be varied with different analog trunks.

### Default Greeting Prompt

| Item | File Name | Content |
|---|---|---|
| **Business hours** | welcome | Thank you for calling. If you know your party's extension, please dial it now. Or, press zero to transfer to an operator. |
| **Non-Business hours** | offhour | Thank you for calling. Our office is closed. If you know the |

extension, please dial it now.

## Customize the Greeting Prompt

### Synthesizing the Greeting File

To synthesize the greeting file, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Basic > Text to voice greeting** to set the greeting contents.
3. Click **Start**. The greeting file starts to be synthesized.
4. Click **Save as greeting for office hours** to save the synthesized greeting file for business hours.
5. (Optional) Click **Save as greeting for non-office hours** to save the synthesized greeting file for non-business hours.

**Note:** The saved greeting file (less than 292 KB) must be in user.wav, user.pcm, or user.dat format.

6. Click **Download & Listen** to download and play the greeting file, and modify the greeting file as required.

### Uploading Greeting File

Three types of the greeting file that can be uploaded are listed as follows.
.wav files are suggested to be uploaded.

| File type | Codec | Size | Sampling rate | Name |
|---|---|---|---|---|
| wav* | G.729/G.711 | ＜292KB | 22.050kHz or 8.000kHz | The files should be named as fring1 to fring9 (The number of voice files is up to 9) |
| dat | G.729 | ＜37KB | / | |
| pcm | G.711 | ＜292KB | / | |

* **Note:** The uploaded .wav files will be converted to .dat files in the G.729 coding format and .pcm files in the G.711 coding format automatically.

**To upload the synthesized greeting file, perform the following steps:**

1. Click **Voice** on the home page.
2. Navigate to **System > Greeting**.
3. Select and upload the synthesized greeting files, for example, userivr.wav. To delete the files, please select the files to delete from the drop-down list of deletion items and click **Delete**.
4. Click **Upload.**
5. Navigate to **Basic > Auto-attendant > Greeting** to change the **Business/Non-business hour** greeting file. Setting the audio greeting for all trunks.

To set the greeting for all trunks, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Basic > Auto-attendant**.
3. Select **Business hours only** in **Auto attendant**, and select **welcome** or **mccs-welcome** from **Business hours** in **Greeting**.
4. (Optional) Select **Non-business hours only** in **Auto attendant**, and select **offhour** from **Non-Business hours** in **Greeting**.

## Setting the Greeting for an Analog Trunk or IP trunk

To set the greeting for an analog trunk, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Trunk > Analog trunk > LINE.**
3. Enter a trunk ID in **Trunk ID**, select **IVR** from **Trunk type**, and select **mccs_welcome** or **welcome** from **Greeting**.

**Note:** If you select **DID** from **Trunk type**, no greeting will be played, and the incoming calls will be directly redirected to a bundled extension.

4. Click **Save**.

To set the greeting for an IP trunk, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Trunk > IP trunk > Current account.**
3. Click corresponding to the target trunk ID.
4. In the pop-up **Modify** dialog box, select **IVR** from **Trunk type**, select **welcome** or **mccs-welcome** from **Greeting**, and click **Apply**.

## Setting the Greeting for Non-English-Speaking Countries

If you are from non-English-speaking countries, perform either of the following steps to set the greeting:

- Pick up the phone, dial *81 to record the greeting by following the voice instruction, and dial *8301 to save you recorded greeting.
- Record the greeting by using your computer, save the recorded greeting, and send it to New Rock for help.

# Extension

## IP Extension Registration

An IP voice terminal (such as softphone WeWei, or a SIP phone), also called an IP extension, can register to the WROC2000 through the network.

### Configuring the Account Information for an IP Phone

To configure the account information for an IP phone, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > IP extension**.
3. Enter the IP extension number and password, and click **Add**. The information about the IP extension account is displayed in **Current account**.

**Notes:**

- The password is encrypted, and can be visible by clicking .
- The WROC2000 supports up to eight IP extension accounts.
- The extension number and the password cannot be same.

4. To modify the account information, click .
5. Click **Save**.

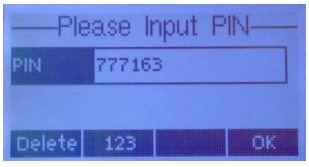
### How to register

#### Using IP Phone

If you use NRP series IP PHONE（NRP1000、NRP1004、NRP1012 or NRP1200）, you only need to complete the following configuration:

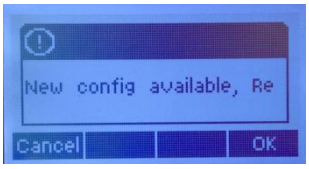
1. Connect IP Phone's  port and WROC2000's LAN port with network cable.
2. Power on the IP Phone. Please use the power adapter provided with the phone.
3. You are prompted to enter the PIN after the phone is initialized.

4. Enter the corresponding PIN and click **OK**.
   To change the PINs, navigate to **Voice > Extension > IP Extension** and click . For example, extension number 200 corresponds to PIN 777163.




5. Click **Enter**, IP Phone will verify the PIN for about 10 seconds. If PIN is correct, it will ask you to

reboot the Phone to validate the new configuration. If PIN is wrong, it will ask you to input PIN again.




6. Registration succeeds, and the extension number (such as 200) is displayed in the top left corner of the phone screen.

**Notes:**

If you use a third party IP phone, you need to complete the following configuration:

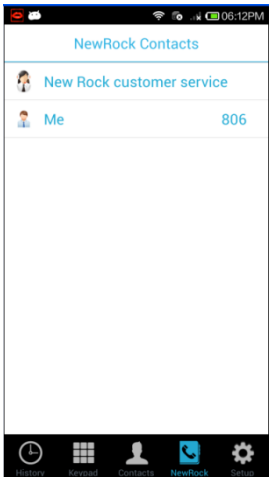
- IP extension number
- Password
- The IP address of WROC2000: the LAN IP address of WROC2000 in a LAN IP phone: the local port; the WAN IP address/domain name in a remote IP phone: the local port (if WROC2000 is in bridge mode, configure it according to Bridge mode). The local port is 5060 by default. You can modify it by choosing **Voice > Trunk > IP trunk > IP trunk registration**. For detailed registration methods, see the operation guide for the IP phone.

### Using WeWei App

If you are using WeWei App for registration, please follow the steps below:

1. Enable the Wi-Fi function of the telephone to connect to the wireless network of WROC2000.
2. Use the QR code scanning app in the telephone to scan the following WeWei installation package. Install it as instructed after the download is complete.

3. After starting the app, you can log in to it in two ways.
   - Select Contact NewRock to register to New Rock's corp telephony system. You can contact with teams of New Rock for free. Long press Me to edit your alias in NewRock.




- To register WeWei to your WROC2000 as an extension, select **Register**, enter PIN, and click **Login**. To change the PINs, navigate to **Voice > Extension > IP Extension** and click . For example, extension number 201 corresponds to PIN 121077.

4. After registration succeeds, the call button turns green.

**Note:**
If you use a third party softphone, you need to configure IP extension number, password and the IP address of WROC2000. For details, see Notes in section **Using IP Phone**

## Call Barring

The WROC2000 supports the following five outgoing call barring modes.

- **Intercom:** Only internal calls are allowed.
- **Local:** Internal and local calls are allowed.
- **Domestic:** Internal, local, and domestic long-distance calls are allowed.
- **International**: All calls are allowed.
- **None**: Outgoing calls are prohibited by prompting a busy tone.

## Modifying the Call Barring Mode of an Analog Extension

To modify the call barring mode of an analog extension, perform the following steps:

1. Click **Voice** on the home page.

2. Navigate to **Extension > Analog extension > PHONE**, and select a call barring mode from **Call barring**.
3. Click **Save**.

### Modifying the Call Barring Mode of an IP Extension

To modify the call barring mode of an IP extension, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > IP extension**.
3. In **Current account**, click .
4. In **Add/Modify IP extension**, select a call barring mode from **Call barring**.
5. Click **Modify**.

## Outbound Call Transfer

This feature enables the receptionist to transfer incoming calls to a phone in the PSTN.

### Setting Outbound Call Transfer

To set outbound call transfer, perform the following steps:

1. Click **Voice** on the home page.
2. Click **Advanced** to select **Outbound transfer** in **Other**.
3. Click **Save**.

#### Notes

- Transferring an incoming call to an external third party occupies two trunks and equals to a toll call.
- For information about call barring modes, see the section **Call Barring** in this manual.

## Call Forwarding

Call forwarding allows users to forward their calls to another phone number.

- **Forward all calls to another phone**: Unconditionally forwards all incoming calls to a specified phone except for the attendant extension.
- **Forward unanswered calls to another phone**: Forwards an incoming call to a specified phone when the incoming call is not answered or the extension is occupied.

For example, if you do not want to miss any calls when you are out or off work, you can enable **Forward all calls to another phone** on your extension to forward all incoming calls to your mobile phone. During work hours, you can enable **forward unanswered calls to another phone** to forward the incoming calls to your mobile phone when you are not at your desk.

### Enabling Call Forwarding

To enable the call forwarding feature, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > Analog extension/IP extension**.
3. Select **Forward all calls to another phone** or **Forward unanswered calls to another phone**

from **Call forwarding** in **Add/Modify IP extension**.

4. Enter a call forwarding number (such as 630-5601080) in **Forwarding number**.
5. Click **Save**.

### Enabling, Querying, and Canceling Call Forwarding through a Phone

| | |
|---|---|
| **Forward all calls to another phone (unconditional forwarding)** | Pick up the phone → press ***99** → press **1** → press **1**. |
| **Forward unanswered calls to another phone (when the phone is busy or a call is not answered)** | Pick up the phone → press ***99** → press **1** → press **2**. |
| **Set the call forwarding number** | Pick up the phone → press ***99** → press **1** → press **9** → press **1** → dial call forwarding number. |
| **Query** | Pick up the phone → press ***99** → press **1** → press *, and you will be informed by a voice prompt about the settings. For example, you are prompted that the current setting is 1, indicating that **Forward all calls to another phone** is enabled. |
| **Cancel** | Pick up the phone → press ***99** → press **1** → press **0**. |

#### Notes

- If the DND (Do not Disturb) feature is enabled, all incoming calls will be rejected, and the call forwarding feature is inactive.
- If **forward all calls to another phone** is enabled, the call forking feature on your extension is inactive.
- **Forward all calls to another phone** is not available for the attendants.
- **Forward unanswered calls to another phone** is inactive when call waiting is enabled. Instead, incoming calls will be held when the line is busy.
- If **Sequential** or **Circular** is selected in **Hunting** in **Group** after navigating to **Voice> Basic > Dialing rule**, and the call forwarding feature is enabled for an extension in a hunting group, the call to the extension will be forwarded to a specified phone, and will not be forwarded back if the call is not answered on the specified phone.
- When the call forwarding number is an external phone number, ensure that the call barring mode is enabled for the extension.
- Forwarding all calls to another phone will take effect only in non-business hours for operator.

## Recording

The WROC2000 supports recording that can only be configured and accessed by the WROC2000 administrators or authorized personnel.

### USB Storage Device

During recording, accessing the recording, and configuring the voice mail, a USB storage device (formatted into NTFS) (minimum capacity: 8 GB) must be connected to the USB port of the WROC2000.

During recording, if the remaining capacity of the storage device is less than 500 M, an alarm in red will be displayed under **Voice > Advanced > Recording > USB Status**, indicating that the recording files in the storage device should be backed up or deleted, to avoid interrupting the recording.

**Note:** The WROC2000 supports only one USB storage device for storing recording files at one time.

## Configuring Recording

To configure recording, perform the following steps:

1. Click **Network** on the home page.
2. Navigate to **Advanced > System time** to check that the current time of the WROC2000 is correct. For details of time setting, see the section **System Time** in this manual.
3. Click **Voice** on the home page.
4. Navigate to **Advanced > Recording**.
5. In **Recording**, select **Enable**.
6. Click **Save**.
7. Navigate to **Analog extension/IP extension** under extension recording management. Check **Recording** of related lines to enable the extension recording function.

**Note:** During recording, if the remaining capacity of the storage device is less than 500 M, an alarm in red will be displayed under Voice > Advanced > Recording>USB Status, indicating that the recording files in the storage device should be backed up or deleted, to avoid interrupting the recording.

8. Click **Save**.

## Accessing the Recording

To access the recording, perform any one of the following steps:

1. Click on the home page if **HTTP** is selected under **Network > Application > USB storage > Access method**, and enter the username and password (both are "user" by default) in the pop-up dialog box. The recording files are displayed in the directory, such as sdd4/Recorder/20140307. Next, click a recording file to access.
2. Remove the USB storage device from the WROC2000 and connect it to your PC. The recording files are displayed in the directory, such as G:\Recorder\20140307. Next, click a recording file to access.

| | | |
|---|---|---|
| **Saved file directory** | Sdd4/Recorder/20140307<br>G:/Recorder/20140307 | **20140307** indicates 7th, Mar, 2014. |
| **Saved file format** | 212_208_20140307_141643_101b_cg.wav<br>208_212_20140307_141713_101e_cd.wav | • **212_208** indicates the caller number and the called number.<br>• **20140307** indicates 7th, Mar, 2014.<br>• **141643** indicates the recording end time 14:16:43.<br>• **101b** indicates the random code.<br>• **cg.wav** indicates the recording file for an |

| | |
|---|---|
| | outgoing call.<br>• **208_212** indicates the called number and the caller number.<br>• **141713** indicates the recording end time 14:17:13.<br>• **101e** indicates the random code.<br>• **cd.wav** indicates the recording file for an incoming call. |

## Voicemail

When the voicemail is enabled for an extension, the caller can leave a voice message following the voice prompt if a call is not answered.

### Configuring the Voicemail

To configure the voicemail, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Advanced > Recording**.
3. In **Recording**, select **Enable**.
4. Navigate to **Extension > Analog extension/IP extension**, and click corresponding to an extension number in **Current account**.
5. Select **Forward all calls to voicemail** or **Forward unanswered calls to voicemail** in **Call forwarding** in **Add/Modify IP extension**.

**Note:** For an analog extension, if **Forward all calls to voicemail** is enabled, you will hear a stutter dial tone.

6. Click **Modify**.

### Accessing the Voicemail through an Extension

To check the voicemail through an extension, perform the following steps:
Pick up the extension, and you will be prompted by a special beep to access the voicemail. Next, press *98 and follow the voice instruction to access the voicemail.

**Note:** Users are only allowed to check the voice messages on their own extensions.

### Accessing Voicemail Files

To check voicemail files, perform the following steps:

1. Click on the home page if **HTTP** is selected under **Network > Application > USB storage > Access method**, and enter the username and password (both are **user** by default) in the pop-up dialog box. The voicemail files are displayed in the directory, such as sda1/Recorder/voicemail.
2. (Optional) Remove the USB storage device from the WROC2000 and connect it to your PC. The

voicemail files are displayed in the directory, such as G:\Recorder\voicemail.

| | | |
|---|---|---|
| **Saved file directory** | Sdd4/Recorder/20140307<br>G:/Recorder/20140307 | **20140307** indicates 7th, Mar, 2014. |
| **Saved file format** | 212_208_20140307_141643_101b_cg.wav<br>208_212_20140307_141713_101e_cd.wav | • **212_208** indicates the caller number and the called number.<br>• **20140307** indicates 7th, Mar, 2014.<br>• **141643** indicates the recording end time 14:16:43.<br>• **101b** indicates the random code.<br>• **cg.wav** indicates the recording file for an outgoing call.<br>• **208_212** indicates the called number and the caller number.<br>• **141713** indicates the recording end time 14:17:13.<br>• **101e** indicates the random code.<br>• **cd.wav** indicates the recording file for an incoming call. |

## Phone Lock

This feature requires a PIN (Personal Identification Number) for making outbound calls.
For example, the phone lock feature can be enabled on extensions to control call expenses. Employees are allowed to set a PIN for their own extension. If an extension is locked, one has to get the valid PIN before making an outbound call with this extension.

### Setting Phone Lock

To set phone lock, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > Analog extension > Advanced** to enter the PIN and select **Calling with PIN** in **Other**. For IP extension, navigate to **Extension > IP extension** to view the PIN.

**Note:** If the PIN is invalid, the caller will be prompted “You are not allowed to make the call. Please contact the administrator”.

3. Click **Save**.

### Setting Phone Lock through a Phone

| | |
|---|---|
| **Lock** | Pick up the phone → press ***77** → press **1**. |
| **Unlock** | Pick up the phone → press ***77** → press **0** → press PIN → press **#**.<br>**Note:** The PIN needs to be set through the GUI. |
| **Query** | Pick up the phone → press ***77** → press ***** to query whether the phone lock feature is enabled or not. |

## Direct Inward System Access (DISA)

This feature allows outside callers to make trunk calls after connecting to the WROC2000 for PIN and mobile number authentication.

## Setting the PIN and Mobile Number

To set the PIN and mobile number, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > Analog extension > Advanced** to enter the PIN and select **Calling with PIN** in **Other**.
3. Navigate to **Extension > IP extension >** **> Other**.
4. Enter the mobile number.

| | |
|---|---|
| **PIN** | Used for phone lock and authorized calls. |
| **Calling with PIN** | Configured to make trunk calls through DISA. |
| **Mobile** | (Mobile phone number) Configured for making trunk calls (without entering the PIN) over the WROC2000. |

5. Click **Save**.

## Calling Through DISA

| | |
|---|---|
| **For internal use** | You can make a call through another extension with your PIN (extension number + PIN), and to enjoy the same outbound call authority of your extension.<br>Pick up the phone → dial ***33** → dial extension number → dial PIN → dial # → dial the called party number. |
| **For external use** (**PIN authentication**) | Dial to the IP trunk number of the WROC2000 → press ***33** → dial extension number → press **PIN** → press **#** → dial the called party number. |
| **For external use** (**mobile authentication**) | Dial to the IP trunk number of the WROC2000 → press ***33** → dial number of the called party. |

## Call Hold

This feature allows you to hold a call while making a new one, with music played for the waiting party. Additionally, it allows you to switch between the two calls.

### Enabling Call Hold

To enable call hold, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > Analog extension > Advanced > Phone > Other.**
3. (Optional) Navigate to **Extension > IP extension >** **> Other**.
4. Select **Call hold**.
5. Click **Save**.

### Using Call Hold

| | |
|---|---|
| **Hold the current call for another one** | During a call, press** to make a new call without hanging up the phone. |
| **Switch between calls** | Press **. |
| **Terminate the current call and switch to the waiting party** | If there is a call on hold, hang up the phone. When the bell rings, pick up the phone to resume the conversation with the waiting party. |

**Note:** Call hold must be enabled when such features as blind transfer, consultation transfer, call park, or call waiting are enabled.

## Call Transfer

This feature allows you to transfer a call to another extension or an external phone. If the transferee is an external phone, your extension needs to be authorized with outbound transfer rights.

- **Consultation transfer**: Transfers a call after consulting with the intended recipient (an internal extension or an external phone).
- **Blind transfer**: Transfers a call without consulting the intended recipient (another internal extension).

### Setting Call Transfer

To set call transfer, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > Analog extension > Advanced > Phone > Other.**
3. (Optional) Navigate to **Extension > IP extension >** **> Other**.
4. Select **Call transfer**.
5. Click **Save**.

### Using Call Transfer

| | |
|---|---|
| **Blind transfer** | Dial ** → press ***38** → dial transfer phone number → hang up. |
| **Consultation transfer** | Dial ** → dial transfer phone number → consult with the intended recipient |

| | |
|---|---|
| | before hanging up. |

**Notes:**

- In blind transfer mode, if the line of the transferor is occupied, a busy tone will be heard by the transferee, unless the call waiting feature is enabled for the transferor.
- In blind transfer mode, the phone number of the transferee is displayed on the phone of the transferor.
- In consultation transfer mode, the phone number of the intermediate operator will be displayed on the phone of the transferor.

## Call Park

This feature allows you to put a call on hold with music played for the caller, and hang up the phone, and then continue the conversation from any other extension.

**Note:** Call hold must be enabled before you enable call park.

### Using Call Park

| | |
|---|---|
| **Call park** | Dial **** → press ***30** → dial parking line number (available from 1 to 9) → hang up.<br>**Note:** If the line selected for parking is occupied, you are prompted to change to other line number. |
| **Parking retrieval** | Press **#30** → dial the parking line number. |

## Call Waiting

If a new call comes in when you are on a call, you will hear a new call indicator tone prompting you to answer, or ignore the new call without terminating the current call. Additionally, you can switch between the two calls.

### Enabling Call Waiting

To enable call waiting, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > Analog extension > Advanced > Phone > Other.**
3. (Optional) Navigate to **Extension > IP extension >** **> Other**.
4. Select **Call waiting**.
5. Click **Save**.

### Using Call Waiting

| | |
|---|---|
| **Ignore the new call** | No action is required when the system prompts you with a new call indicator tone that will automatically disappear after several minutes. |
| **Answer the new call** | On hearing the new call indicator tone, press ** to place the |

| | |
|---|---|
| | current call on hold and answer the new call. |
| **Switch between the calls** | Press ******. |

**Note:** The call waiting feature is not available for the attendant.

## Call Forking

This feature enables an incoming call to be simultaneously forwarded to an extension and a pre-set terminal (such as a mobile phone), to avoid missing important calls. If the incoming call is answered on the preset terminal, the extension stops ringing.

### Setting a Forking Number

To set a forking number, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > Analog extension > Advanced > Phone > Other.**
3. (Optional) Navigate to **Extension > IP extension >** **> Other**.
4. Set a forking number.

**Note:** The forking number can be an extension number or an external phone number.

5. Click **Save**.

### Setting, Querying, and Deleting the Forking Number through a Phone

| | |
|---|---|
| **Set the forking number** | Pick up the phone → press ***99** → press **4** → press **1** → dial the forking number (the simultaneous ringing number). |
| **Query the forking number** | Pick up the phone → press ***99** → press **4** → press *****. |
| **Delete the forking number** | Pick up the phone → press ***99** → press **4** → press **0**. |

**Notes:**

- Call forking is inactive if such features as "DND", "forward all calls to another phone (unconditional forwarding)", and phone secretary are enabled.
- If both call forking and "forward unanswered calls to another phone" are enabled, the incoming call will be directly forwarded to a specified phone.
- Call forking is inactive if the incoming call is in call waiting mode.
- If an external terminal is a forking number of an internal extension through analog trunks, call forking functions as "forward unanswered calls to another phone".

## Call Pickup and Call Pickup Prohibition

The call pickup feature allows you to pick up calls that are not answered on other extensions. The call pickup prohibition feature prevents unanswered calls from being picked up by others.

### Enabling Call Pickup Prohibition

To enable call pickup prohibition, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > Analog extension > Advanced > Phone > Other.**
3. (Optional) Navigate to **Extension > IP extension >** **> Other**.
4. Select **Call Pickup prohibit**.
5. Click **Save**.

### Enabling, Disabling, and Querying Call Pickup Prohibition through a Phone

| | |
|---|---|
| **Enable** | Pick up the phone → press***73** → press **1**. |
| **Disable** | Pick up the phone → press***73** → press **0**. |
| **Query** | Pick up the phone → press***73** → press *****. |

### Pick up a call

| | |
|---|---|
| **Pick up a call** | When an extension rings and is not answered, pick up that phone → press ***51**. If multiple extensions are ringing, the call to the extension that rings first will be taken over. |

## Three-Way Calling

This feature allows you to add another party to an existing call, and make conversations with both parties simultaneously or either of them alternately.

### Making Three-Way Calling

| | |
|---|---|
| **Invite the third party** | During the two-way conversation, press ****** → dial the number of the third party. |
| **Establish a three-way calling** | Press **##** during the two-way conversation while there is a waiting party aside. |
| **Splitting a three-way calling into two-way conversation** | Press **##** during the three-way calling. |
| **Switch between calls** | Press ******. |

## Extension Status Subscription

Extension status subscription for IP phone NRP1004 and NRP1012 can be configured in WROC2000 GUI.

### Set on Web GUI

1. Click **Voice** on the home page

2. Navigate to **Extension > Extension status subscribe.**
3. Click and select the extension you need to subscribe
4. Click **Apply.**
5. On **Extension model,** please select either **NRP1004** or **NRP1012**. NRP1004 can subscribe up to 4 extensions and NRP1012 can subscribe up to 8 extensions.
6. Enter the extension number or click ▼ to choose the extension number you wish to subscribe.
7. Click **Save**.
8. The phone will download the subscription configuration automatically, every time the subscription period takes effect or the phone is rebooted. If the phone is not registered please connect it with LAN port of WROC2000 and power on, then enter the PIN in the PIN input box of the IP phone (the PIN can be viewed by navigating to **Voice > Extension > IP Extension**)
9. After rebooting, BLF will show the extension status.

| Extension Status | BLF Status |
|---|---|
| Idle | Green (solid lit) |
| Ringing | Red (flash) |
| Calling | Red (solid lit) |
| Off line | Red (solid lit) |

**Notes:** Subscription will fail if you choose the wrong phone model.

## Color Ringback Tone

WROC2000 will play the voice file you set instead of the standard ringback tone.

### How to Set on Web GUI

1. Click **Voice** on the home page
2. Navigate to **System > Greeting**
3. Click **Browse** to select the voice file to be uploaded and the click **Upload**.
4. Navigate to **Extension> Analog Extension/IP Extension > Advance/** **.**
5. Select the voice file on the Color ringback drop-down list (click ▼ )
   Three types of the file that can be uploaded are listed as follows.
   The .wav files are suggested to be uploaded.

| File type | Codec | Size | Sampling rate | Name |
|---|---|---|---|---|
| wav* | G.729/G.711 | ＜292KB | 22.050kHz or 8.000kHz | The file name should begin with "user", and can contain letters and digits only. |
| dat | G.729 | ＜37KB | / | |
| pcm | G.711 | ＜292KB | / | |

* **Note:** The uploaded .wav files will be converted to .dat files in the G.729 coding format and .pcm files in the G.711 coding format automatically.

**Note:** Please refer to the *User Guide for Telegreeting* to convert mp3/wav file to the voice file supported.

# Outgoing Call Setting

## SIP Trunk

This feature provides IP-based call connectivity between the WROC2000 and the internet telephony service provider's (ITSP) SIP server.

### Setting an IP Trunk

To set an IP trunk, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Trunk** > **IP Trunk** > **Add.**
3. Select **IP trunk**, and set the corresponding parameters.

| | |
|---|---|
| **Registration server** | IP address and port number of the registrar. The WROC2000 supports multi-platform registration. |
| **Sub-domain** | Provided by your ITSP, such as salesdepart.abccompany.com. |
| **Trunk ID** | Provided by your ITSP, such as 6201955018. |
| **Password** | Provided by your ITSP, such as 12345678. |
| **Concurrency** | The number (must not be more than 8) of concurrent calls allowed by your ITSP on the IP trunk. |
| **Registration** | Needs to be selected. |
| **Trunk type** | • **IVR**: Plays a greeting message for incoming calls.<br>• **DID**: Directs an incoming call to a bundled extension without playing voice greetings. If **Share** is selected, this trunk can be used to make outgoing calls by other extensions. If **DID only** is selected, this DID trunk is available only for the bundled extension. |

4. (Optional) Select **Skype**, and set the corresponding parameters.

| | |
|---|---|
| **SIP User** | The SIP User of your SIP Profile. |
| **Password** | The password of your SIP Profile. |
| **Skype Connect address** | The Skype Connection address of your SIP Profile. |
| **UDP Port** | The UDP port of your SIP Profile. |
| **Add Skype Number** | Clicked to add your valid Skype account number. |

5. Click **Apply**.
6. To change the local signaling port, expiration time or user agent domain name, click **Registration**.

| | |
|---|---|
| **Local signaling port** | The port number (5060 by default) (can be changed as required) used by the WROC2000 to register to the ITSP. |
| **Registration expire** | The duration that the WROC2000 is re-registered on the ITSP server. |
| **User agent domain name** | Provided by the ITSP, such as **abccompany.com**. |

7. Click **Save**.

**Note:** After an IP trunk is registered, the IP trunk registration status be checked under **IP Trunk > Current account**.

## Outbound Calls

You can make an outbound call in either of the following two modes:

- **Direct dialing**: Dials an external phone number directly.
- **Using prefix**: Adds a prefix to the target external phone number.

By default, the analog trunk is preferentially for local calls, and IP trunk is preferentially for long-distance calls.

### Setting the Dialing Methods for Outbound Calls

To set the dialing methods for outbound calls, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Basic > Dialing rule > Dialing method for outbound calls**.
3. Select **Direct dialing**.
4. (Optional) Select **Using prefix**, and set the corresponding parameters.

| | |
|---|---|
| **Prefix** | Used to select different trunks for outbound calls. The default prefix for IP trunk is 9, for analog trunk is 7, and for IP trunk circle is 6. |
| **Second dial tone** | The second dial tone is heard after the prefix is dialed. |
| **Trunk** | • The WROC2011 supports one analog trunk and eighteen IP trunks.<br>• Your extension must be authorized with outbound call rights before making outbound calls.<br>• If the type of a trunk is set to **DID**, the trunk can only be used by the bound extension for outgoing calls. |

5. Set the parameters in **outbound**.

| | |
|---|---|
| **Low cost** | Automatically selects the analog trunk (the LINE port) or IP trunk for outbound calls. Usually, the analog trunk is preferentially for local calls, or takes priority when the IP trunk is unavailable or faulty, while the IP trunk is preferentially for long-distance calls. |
| **Analog trunk** | Calls are made over the LINE port. |
| **IP trunk sequential** | Sequentially selects the idle trunks. |
| **IP trunk circular** | Selects the idle trunks in turn. |
| **Route** | Selects the outbound call trunk according to the rules defined in the routing table. |

6. Click **Save**.

### Making calls

| Dialing Method | Make an External Call | Make an Internal Call |
|---|---|---|
| **Direct dialing** | Pick up the phone → dial the external phone number. | Pick up the phone → dial the number of another extension. |
| **Using prefix** | Pick up the phone → press the prefix → dial the external phone number. | Pick up the phone → dial the number of another extension. |

## Hotline

The WROC2000 provides the following auto-dial modes for analog phone:

- **Immediate**: Automatically dials the preset hotline number after off-hook.
- **Delayed**: Automatically dials the preset hotline number if no dialing is performed five seconds after off-hook.

### Setting a Hotline

To set a hotline, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > Analog extension > Advanced**.
3. Select **Immediate** or **Delayed** under **PHONE > Other > Hotline**.

**Notes:**

- The hotline feature for IP extension should be set on IP Phone.
- If the immediate hotline feature is enabled, the telephone is dedicated to a private line and can't make other calls.

4. Enter the hotline number in **Number**, such as 718-2139802.
5. Click **Save**.

## Speed Dialing

This feature facilitates you to quickly make a call by dialing an abbreviated phone number.

### Editing the Speed Dialing List

To edit the speed dialing list, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > Analog extension > Advanced > Other**.
3. (Optional) Navigate to **Extension > IP extension > Current account >** **> Other**.
4. Enter "abbreviated code-phone number" (such as 20-9176861888) in **Speed dial list**.

**Notes:**

- The WROC2000 supports up to 30 abbreviated phone numbers.
- The abbreviated code ranges from 20 to 49. You can set up to 30 pairs of abbreviated code-phone numbers, with each pair separated by /.

5. Click **Save**.

### Adding, Using, and Deleting Speed Dialing Through a Phone

| | |
|---|---|
| **Add** | Pick up the phone → press ***74** → press abbreviated code → press phone number to be abbreviated → press **#**. |
| **Use** | Pick up the phone → press ** → press abbreviated code. |
| **Delete** | Pick up the phone → press ***74** → press abbreviated code → press **#**. |

## White List and Black List for Outbound Calls

This feature enables you to set a white list (emergency call list) in which the phone numbers are not limited by the extension authority, and to set a black list in which the phone numbers are prohibited (even an extension is authorized with international call rights).

### Setting the White List and the Black List

To set the white list and the black list, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Advanced > System > Call filter**.
3. Set the white list and black list.

| | |
|---|---|
| **White list** | A list of phone numbers (separated by "\|" or ",", for example, "9178681888\|9176861888" or "9178681888,9176861888") to which outbound calls are always allowed. |
| **Black list** | A list of phone numbers to which outbound calls are always blocked by prompting a busy indicator tone. |
| **Domestic long distance call prefix** | The identifier of the domestic long distance calls, such as 0. |
| **International call prefix** | The identifier of the international calls, such as 00. |

4. Click **Save**.

## Digit Map

This feature enables the WROC2000 to identify the end of the dialing, and facilitates you to start the call in time.

A well-designed digit map reduces the waiting time of the WROC2000 and speeds up connection establishment.

### Modifying the Digit Map

To modify the digit map, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **System > Dialing > Digitmap**.
3. Modify the digit matching rules as required. For detailed information about the matching rules, see the section **Digit Map Rules** in this manual.

**Note:** Up to 250 matching rules can be configured for the digit map. The length of each rule cannot exceed 32 digits or 38 characters, and the total length of the character string cannot exceed 6000 bytes.

4. Click **Save**.

### Digit Map Rules

| | |
|---|---|
| **0-9, *, #** | Corresponds to the dial keys on a telephone. |
| **X** | Indicates a single digit from 0 to 9. |
| **.** | Indicates a multi-digit number. For example, 1 indicates a multi-digit number starting with 1. |

| | |
|---|---|
| **T** | Indicates a timeout terminator. |
| **[ ]** | Indicates a number set. For example, [1-3, 5, 7-9] indicates a number among 1, 2, 3, 5, 7, 8, and 9. |
| **x.T** | Indicates a phone number starting with a number from 0 to 9, with unlimited length. If no new number is received within the scheduled dialing time, the WROC2000 will send out the detected number. |
| **x.#** | Indicates a phone number starting with a number from 0 to 9, with unlimited length. If **#** is added after the dialed number, the WROC2000 will stop receiving phone numbers and send out all dialed numbers before #. |
| **[2-8]xxxxxxx** | Indicates an 8-digit number starting from 2 to 8. |
| **02xxxxxxxxx** | Indicates an 11-digit number starting from 02. |
| **013xxxxxxxxx** | Indicates a 12-digit number starting from 013. |
| **13xxxxxxxxx** | Indicates an 11-digit number starting from 013. |
| **11x** | Indicates a 3-digit number starting from 11. |
| **9xxxx** | Indicates a 5-digit number starting from 9. |

# IMS

The IP Multimedia Subsystem (IMS) uses SIP protocols as voice signaling, to satisfy various multimedia service requirements of terminal clients.

## Enabling IMS

To enable the IMS, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Advanced > SIP > IMS**.
3. Select **IMS**, and set the access network information, including the IP address and port number (such as 192.168.100.200:5060) of the access network.
4. Click **Save**.

## Setting Service Provider Information

To set the information about the service provider, perform the following steps:

5. Click **Voice** on the home page.
6. Navigate to **Trunk > IP trunk**.
7. Set the IP address and port number (same as that of access network information) of the service provider in **Registration server**. For details, see the section **IP Trunk** in this manual.
8. Click on the home page to reboot the WROC2000 and make the setting valid.
9. Log in to the WROC2000 again, and click **Voice** on the home page.
10. Navigate to **Trunk > IP trunk > Current account** to check whether the registration is successful or not.

# Incoming Call Setting

## DID

The Direct Inward Dialing (DID) feature binds an external trunk to an extension. When a call comes in, the WROC2000 directs the call to the bound extension without the need for an auto-attendant. For example, the DID numbers can be assigned to customers for convenient contact with the salesmen.

### Setting DID

To set the DID, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Trunk > Analog trunk > LINE**, select **DID** from **Trunk type**, and select a DID number from **DID**.
3. (Optional) Navigate to **Trunk > IP trunk > Current account >** , select **DID** from **Trunk type**, and select a DID number from **DID**.
4. Select **DID** from **Trunk type**.
5. Enter a DID number, such as the extension 205.
6. Click **Save** or **Add** as required.

**Notes:**

- When the trunk type is set to **DID**, this trunk can only be used by the bound extension for making outgoing calls.
- The default number of the analog trunk is 217. You need to change it to the external number provided by the service provider, such as 416-5601080.
- Before setting a DID number for an IP trunk, you need to register the number on the service platform of the service provider.

## Hunting Group

This feature enables you to add multiple extensions to the same hunting group.
When a group number is dialed, the WROC2000 will ring the idle extension in the group according to the preset hunting type (sequential, circular, or simultaneous).

### Setting a Hunting Group and Adding an Extension Number

To set a hunting group and add an extension number to it, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Basic > Dialing rule > Group**.
3. Click **Add**, set a group number, and select the hunting type.
4. Click to add an extension number to the hunting group.

| | |
|---|---|
| **Number** | The hunting group number, which shouldn't be identical with that of other prefix, extension number, and feature key. |

| | |
|---|---|
| **Hunting** | Provides the following hunting types:<br>• **Sequential**: The idle extensions are selected in sequence.<br>• **Circular**: The idle extensions are selected in turn.<br>• **Simultaneous**: The idle extensions in the group ring simultaneously. |
| **Extensions** | The extension numbers (including IP extension numbers) of the hunting group. The same extension number can be added to multiple hunting groups. |

5. Click **Save**.

**Note:** When a call comes in for a group but is not answered, a busy indicator tone will be prompted if it is an internal call, or it will be forwarded to the operator if it is an external incoming call.

## Secretary Extension

This feature facilitates you to avoid unexpected interruption through transferring all incoming calls on your extension to the secretary after binding your extension with that of the secretary.

### Setting the Secretary Extension

To set the secretary extension, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Basic > Auto-attendant > Secretary**.
3. Select **External call** or **All call** as required.

**Notes:**

- **External call**: Only transfers the calls from external to the secretary.
- **All call**: Transfers all incoming calls to the secretary.

4. Navigate to **Extension > Analog extension > Advanced > PHONE > Other** to set the secretary number.
5. (Optional) Navigate to **Extension > IP extension >** **> Other** to set the secretary number.
6. Click **Save**.

### Enabling, Disabling, and Querying the Secretary Extension through a Phone

| | |
|---|---|
| **Enable** | Pick up the phone → press ***35** → press **1**. |
| **Disable** | Pick up the phone → press ***35** → press **0**. |
| **Query** | Pick up the phone → press ***35** → press *. |

## Distinctive Ring

The WROC2000 allows you to enable different ring cadences for internal calls and external calls. This feature is only applicable to analog extensions.

### Enabling Distinctive Ring

To enable distinctive ring, perform the following steps:

1. Click **Voice** on the home page.

2. Navigate to **Extension > Analog extension > Advanced > PHONE > Other**.
3. (Optional) Navigate to **Extension > IP extension >** **> Other**.
4. Select **Distinctive ring**.

**Note:** After the distinctive ring feature is enabled for an extension, the WROC2000 automatically identifies whether the call to the extension is from internal or external and automatically configures a ring cadence for the extension.

5. Click **Save**.

## DND

This feature facilitates you to reject any calls with voice prompts.
If this feature is enabled for an analog extension, a special beep is prompted after you pick up the extension.

### Setting DND

To set the DND feature, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > Analog extension > Advanced > PHONE > Other**.
3. (Optional) Navigate to **Extension > IP extension >** **> Other**.
4. Select **Do not disturb**.
5. Click **Save**.

### Activating, Deactivating, and Querying DND through a Phone

**Notes:**

- Activating, deactivating, and querying the DND feature is unavailable for the operator's extension.
- If **Do not disturb** is not selected through the GUI, the DND feature cannot be activated.

| | |
|---|---|
| **Activate** | Pick up the phone → press ***99** → press **3** → press **1**.<br>**Note:** If the DND feature is enabled, such features as call forwarding, call waiting, call forking, and secretary extension are inactive. |
| **Deactivate** | Pick up the phone → press ***99** → press **3** → press **0**. |
| **Query** | Pick up the phone → press ***99** → press **3** → press *****. |

- Disabling DND on WROC2000 Web GUI will not change the DND setting of IP phone.
- When user enables the DND feature on WROC2000, the caller will hear this voice prompt: "The called subscriber has activated the DND service. Please hang up."

## Call Block

This feature enables you to block unwanted calls with a busy tone.

### Setting a Call Block List for an Extension

To set a call block list for an extension, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Extension > Analog extension > Advanced > PHONE > Other**.
3. (Optional) Navigate to **Extension > IP extension >** **> Other**.
4. Set a call block list in **Blocked list**.

**Notes:**

- The phone numbers in **Blocked list** must be separated by commas, such as 630-5601080, 630-5602381.
- You can call the phone numbers in **Blocked list** at any time.

5. Click **Save**.

### Setting Call Block Numbers for All Extensions

To set call block numbers for all extensions, perform the following steps:

1. Click **Voice** on the home page.
2. Navigate to **Trunk > Analog trunk** to select **Call ID detect** in **Line**.
3. Navigate to **System > Blocked phone numbers**.
4. Enter the call block numbers.

**Note:** Up to 30 call block numbers are supported.

5. Click **Save**.

# Chapter V Management

# Management

## Password

For the sake of security, you are recommended to modify the initial password when you first log into the WROC2000.

### Modifying the Password

To modify the password, perform the following steps:

1. Click **Mgmt** on the home page.
2. Click **ModifyPwd**.
3. Modify the password, and set a login timeout value.

| | |
|---|---|
| **Administrator password** | • **New password**: A complex password consisting of numbers, lowercase and uppercase letters is recommended.<br>• **Confirm new password**: Enter the new password again. |
| **Timeout** | If the login time exceeds this value, the system will automatically log out. |

4. Click **Save**.

## Software Upgrade

To ensure good performance of the WROC2000, you are recommended to upgrade the WROC2000 software to the latest version

### Upgrading the Software

To upgrade the software, perform the following steps:

1. Click **Mgmt** on the home page.
2. Click **Firmware**.
3. Click **Browse**, select an upgrade file with extension **.gz**, and click **Upload**.

**Notes:**

- You must not power off the WROC2000, disconnect the WROC2000 from network, or reboot the WROC2000 during software upgrade.
- After software upgrade, the WROC2000 will reboot automatically. The upgrade file is provided by your local dealers or you can send us your request to gs@neWROC2000ktech.com.

## Configuration File Import/Export

The configuration files of the WROC2000 can be downloaded or uploaded.

### Importing Data

To import data to the WROC2000, perform the following steps:

1. Click **Mgmt** on the home page.
2. Click **Configuration**.
3. In **Import data**, Click **Browse**, select the configuration files with extension **.gz**, and click **Upload**.

**Notes:**

- During the data import, you must not power off the device, disconnect the WROC2000 from network, or reboot the device.
- After the data is imported successfully, the WROC2000 will reboot automatically.

### Exporting Data

To export data from the WROC2000, perform the following steps:

1. Click **Mgmt** on the home page.
2. Click **Configuration.**
3. In **Export data**, click **Download** to select the storage path.

**Notes:**

- During the data export, you must not power off the WROC2000, disconnect the WROC2000 from network, or reboot the WROC2000.
- After the configuration files are successfully exported, the WROC2000 will reboot automatically.

## Restoration to Factory Setting

To restore the WROC2000 to factory settings, perform the following steps:

1. Click **Mgmt** on the home page.
2. Navigate to **Configuration**.
3. In **Restore factory settings**, select what you need to perform restoration.

| | |
|---|---|
| **Restore factory settings** | Provides the following three options:<br>• **Network**: Clicked to restore network setting.<br>• **Voice**: Clicked to restore voice setting.<br>• **All**: Clicked to restore the settings of network and voice. |

## Telnet

Telnet service allows you to view the device information.

### Enable Telnet via GUI

1. Click **Mgmt** on the home page**.**
2. Click **Remote Management** and select **On** to enable Telnet service.
3. Set the Telnet **Password**. The password must be 6 to 20 characters long and contain at least two types of alphabetic, numeric or symbolic character, except the equal sign =.
4. Enter the password again in the **Confirm password** field.
5. Set the **IP range of remote PC** specified for the PCs that are allowed to visit the device. The default range is 0.0.0.0 to 255.255.255.255, which allows any PC to visit the device.
6. Click **Save**.

**Note:** Telnet service is disabled by default.

## Remote Management

This feature enables you to access the WROC at a WAN port address remotely.

### Setting Remote Management

To set remote management, perform the following steps:

1. Click **Mgmt** on the home page.
2. Navigate to **Remote Management**.
4. In **Remote management**, select **Enable**.

**Note:** This procedure is not available in bridge mode.

5. In **Access method**, select **https** or **http**. You can also modify **Remote management port**（the default value is 8080）.
6. Set the **IP range of remote PC** specified for the PCs that are allowed to remotely visit the device. The default range is 0.0.0.0 to 255.255.255.255, which allows any terminal to visit the device.
7. Click **Save**.
8. Remote access to WROC: enter http://xxx.xxx.xxx.xxx:port or https://xxx.xxx.xxx.xxx:port in the address bar of the Web browser, in which xxx.xxx.xxx.xxx is the WAN IP address or DDNS of WROC and port is the remote management port. If the **Access method** is **https**, after clicking **login**, WROC will send a certificate which may be blocked by the Web browser for the reason of untrusting. Trust this certificate will enable you to access the Web login page of WROC2000.

## Port Capture

This feature is used for troubleshooting media related issues, such as CID detection failure or busy tone detection failure. Port capture records the media stream from the analog line. The capturing starts from the off-hook of a phone interface or from the ringing of a line interface, and it is ended upon on-hook. Only the first 200 seconds of media stream is captured and data captured afterwards will be discarded. The captured data will be saved on WROC2000 as PCMU format file.

1. Click **Mgmt** on the home page.
2. Navigate to **System tool > Port capture**
3. Enter the **Extension number** or Click to select the **Analog line ID** or **Extension number** you want to perform the capture, then click **Apply**. The call for port capture has to be completed in 200 seconds from the establishment of the calling on the line.
4. Click **Start** to initiate the capture procedure.
5. Make the test call (Outbound call for Phone port, inbound call for Line port).
6. Click **Stop** to finish the capture procedure.
7. A downloading request window will pop up to allow you to download the captured data to your PC.
8. Send the captured file or related issue description to gs@newrocktech.com. Our technicians will help you to analyze and solve the issue.

## Data Packet capture

This feature is used for troubleshooting IP packet related issues, such as one-way voice, noise or echo. Up to 3 files each with max. 2MB in size can be captured. Files will be saved as dump.cap in WROC2000 and click STOP to finish the capturing and download these files. The file will not be stored in WROC after downloading.

1. Click **Mgmt** on the home page.
2. Navigate to **System tool > Data packet capture**
3. Choose the capturing mode you want:
    - SIP trunk & IP Extension (default)
    - WAN port
    - LAN port
    - Wireless port
4. Click **Start** to start data capture.
5. Make the test call to reproduce the issue.
6. Click **Stop** to finish the capture procedure.
7. A downloading request window will pop up to allow you to download the captured packets to your PC.
8. Send the captured file to gs@newrocktech.com. Our technicians will help you to analyze and solve the issue.

## Event

The intuitive event display enables users to monitor or track the primary information of the WROC2000 status relating to system, network, call, and security.

1. Click **Status** on the home page.
2. Navigate to **Event**.
3. Choose the type of event you want to monitor:

| Event type | Description |
|---|---|
| **Events** | Default SIP port selected; Remote management enabled; IP trunk registration succeeded; WAN port reconnected; Administrator login; Configuration change; FXO port connected; FXO port disconnected |
| **Orange Alarm(normal)** | Administrator password change; Login failure(illegal login) |
| **Red Alarm(serious)** | Device rebooting; Software exit; IP trunk registration failure; Software restarted; Abnormal IP extension registration; WAN port disconnected; hostname resolution failure |

The operation options for alarm/event messages in batch are displayed under each event/alarm type, for example, **Acknowledge All**, while operations listed on the right side of messages, such as **Modify**, **Disable**, **Acknowledge**, can be performed towards individual message. The number of events/alarms is displayed on the upper left corner of the interface. The details for all the operations are listed below:

| Operation | Description |
|---|---|

| | |
|---|---|
| **Disable** | The operation is merely used for disabling the Remote Management when the function is enabled in the **Events** . |
| **Modify** | The operation is merely used for changing the SIP port if it is specified as 5060 in the **Events** . |
| **Acknowledge** | Confirm the messages for each type of events/warnings sequentially. The number of messages will decrease but the warning history will not be cleared. |
| **Clear** | Clear the messages for each type of events/warnings sequentially. The number of messages will decrease and the warning history will be cleared. |
| **Acknowledge All** | Confirm all the messages for each type of events/warnings. The number of messages will decrease in batch but the warning history will not be cleared. |
| **Clear All** | Clear all the messages for each type of events/warnings. The number of messages will decrease in batch and the warning history will be cleared. |

# FAQs

1. **Fail to remotely login to the WROC2000 with a WAN IP address or dynamic domain name.**

   **A**: Navigate to **Network** > **Firewall** > **System security** to check whether remote management is enabled, and check whether the remote management port is a non-80 port, such as port 8080.

2. **The call forwarding feature is active if the destination party is an extension and is inactive if the destination party is an external phone.**

   **A**: Ensure that trunks are sufficient on the WROC2000 which connects to PSTN or ITSP's SIP server.

3. **The WROC2000 connects to a router and can access the Internet in bridge mode. However, the external IP extension fails to register to the WROC2000 through the Internet.**

   **A**: Check whether port forwarding is enabled on the router which connects to the WROC2000. If not, enable port forwarding to forward the signaling port of the WROC2000 (**Trunk > IP extension**, default port: 5060) and RTP port (10010-10130).

4. **Fail to login to the GUI after PPPoE link is established**

   **A**: Reboot the WROC2000.

5. **Your PC can not obtain a new IP address after the DHCP address pool is changed.**

   **A**: Navigate to **My Network Places > View network connections** on Control Panel. Next, right-click **Local Area Connection**, select **Disable** to disable the current IP address, and select **Enable** to obtain a new address.

6. **Fail to log in to the WROC2000 by using w.com as the URL.**

   **A**: Clear the history data and cache of your browser.
   Firefox: Navigate to **Tools > Clear Recent History**, select all details, and click **Clear Now.**
   IE: Navigate to **Tools > Delete browsing history**, and click **Delete**.
   Google Chrome: Go to the page, select all details, and click **Clear browsing data**.

# Appendix: Configuration of 3G

| ISP | SSID | 3G dialing number | PIN | User account | Password |
|---|---|---|---|---|---|
| TOT (Telephone Organization of Thailand) | TOT | *99# | Enter the PIN provided by the ISP | Enter the user account provided by the ISP | Enter the password provided by the ISP |
| True H (Thailand) | True H | *99# | | | |
| Teletalk (Bangladesh) | Teletalk | *99# | | | |
| Telefonica (Movistar, Spain) | movista.es | *99# | Null | MOVISTAR | movistar |